AMENDMENTS TO CLAIMS

1. (currently amended) An electric power cable, comprising:

a conductor;

a semiconductive conductor shield overlaying said conductor;

a crosslinked insulation layer formed over said conductor shield; and

a foamed crosslinked semiconductive insulation shield positioned over and adhered to said insulation layer, wherein foaming of said foamed insulation shield is obtained after extrusion of said insulation shield onto said insulation layer.

2. (original) The electric power cable of claim 1, wherein an interface between said insulation layer and said foamed insulation shield is substantially void free.

3. (original) The electric power cable of claim 1, wherein said foamed insulation shield has a closed cell structure.

4. (original) The electric power cable of claim 1, further comprising a metallic shield overlaying said foamed insulation shield.

5. (currently amended) The electric power cable of claim 1, wherein foaming of said foamed insulation shield is obtained by:

adding a chemical foaming agent having a decomposition temperature to said insulation shield prior to extrusion; and

decomposing said chemical foaming agent at greater than atmospheric pressure after extrusion of said insulation shield onto said insulation layer.

6. (original) The electric power cable of claim 1, wherein said chemical foaming agent is selected from the group consisting of exothermic foaming agents, endothermic foaming agents, and hybrid exothermic/endothermic foaming agents.

7. (original) The electric power cable of claim 1, wherein said chemical foaming agent is an exothermic foaming agent and wherein said pressure is greater than or equal to about 135 psi.

8. (original) The electric power cable of claim 7, wherein a catalyst is added to said insulation shield prior to extrusion onto said insulation layer.

9. (original) The electric power cable of claim 3, wherein said insulation shield is comprised of a base material comprised of a crosslinkable ethylene acetate selected from the group consisting of EVA, EBA, and EEA.

10. (original) The electric power cable of claim 9, wherein said chemical foaming agent is comprised of a masterbach.

11. (original) The electric power cable of claim 10, wherein said masterbach is comprised of a carrier selected from the group consisting of EVA, EBA, and EEA, and an active chemical foaming ingredient.

12. (original) The electric power cable of claim 11, wherein said carrier has a MFI higher than that of said insulation shield.

13. (original) The electric power cable of claim 10, wherein said chemical foaming agent comprises from about 1% to about 8% by weight of said insulation shield.

14. (original) The electric power cable of claim 1, wherein foaming of said insulation shield causes from about 10% to about 40% density reduction of said insulation shield.

15. (currently amended) A method of producing an electrical power cable, comprising:

advancing an electrical conductor through an extrusion crosshead;

extruding a semiconductive conductor shield over the electrical conductor;

extruding a cross-linkable electrical insulation layer over the conductor shield;

extruding a semiconductive, crosslinkable insulation shield material which includes a chemical foaming agent over the insulation layer; and

after the extruding, performing the following steps:

heating the conductor shield, the insulation layer and the insulation shield to a temperature equal to or greater than the decomposition temperature of the chemical foaming agent to decompose the chemical foaming agent;

crosslinking the insulation shield material;

crosslinking the insulation layer;

crosslinking the conductor shield; and

foaming the insulation shield.

16. (original) The method of claim 15, wherein the chemical foaming agent has a decomposition temperature and a processing temperature.

17. (original) The method of claim 16, wherein said extruding step is done at a temperature less than the decomposition temperature of the chemical foaming agent.

18. (original) The method of claim 15, wherein said heating step is done at greater than atmospheric pressure.

19. (original) The method of claim 15, further comprising: cooling the electrical power cable after said foaming step.

20. (original) The method of claim 19, further comprising applying a metallic shield over the foamed insulation shield after said cooling step.

21. (original) The method of claim 18, wherein said heating step is done at a pressure greater than about 135 psi.

22. (original) The method of claim 16, wherein the chemical foaming agent is an

exothermic foaming agent and wherein the insulation shield material further comprises a catalyst which lowers the decomposition temperature of the chemical foaming agent.

23. (original) The method of claim 15, wherein said heating step is done at about 600° F. to about 750° F.

24. (original) The method of claim 15, wherein said heating step is done at about greater than 370° F.

25. (original) The method of claim 15, wherein said three extruding steps are done simultaneously.

26. (original) The method of claim 15, wherein said three crosslinking steps and said foaming step are done substantially concurrently.

27. (original) The method of claim 16, wherein the insulation shield is maintained within the processing temperature range of the foaming agent in said heating step for at least about 1 minute.

Claims 28-34 (canceled)

35. (currently amended) The electric power cable of claim 5 ~~34~~, wherein said insulation shield is comprised of a base material comprised of a crosslinkable ethylene acetate selected from the group consisting of EVA, EBA, and EEA.

Claims 36-39 (canceled)

40. (currently amended) A method of producing an electrical power cable, comprising:

advancing an electrical conductor through an extrusion crosshead;

extruding a semiconductive conductor shield over the electrical conductor;

extruding a cross-linkable electrical insulation layer over the conductor shield;

extruding a semiconductive, crosslinkable insulation shield material which includes a chemical foaming agent having a decomposition temperature and a processing temperature range, over the insulation layer, said extruding being done at a temperature less than the decomposition temperature of the chemical foaming agent; and

after the extruding, performing the following steps:

heating the electrical power cable with the conductor shield, the insulation layer and the insulation shield to a temperature equal to or greater than the decomposition temperature of the chemical foaming agent to decompose the chemical foaming agent, said heating being done at greater than atmospheric pressure;

crosslinking the insulation shield material;

crosslinking the insulation layer;

crosslinking the conductor shield; and

foaming the insulation shield.

41. (original) The method of claim 40, further comprising: cooling the electrical power cable after said foaming step; and applying a metallic shield over the foamed insulation shield after said cooling step.

42. (original) The method of claim 40, wherein said heating step is done at a pressure greater than about 135 psi.

43. (original) The method of claim 40, wherein the chemical foaming agent is an exothermic foaming agent and wherein the insulation shield material further comprises a catalyst which lowers the decomposition temperature of the chemical foaming agent.

44. (original) The method of claim 40, wherein said heating step is done at about 600°

F. to about 750° F.

45. (original) The method of claim 40, wherein said heating step is done at about greater than 370° F.

46. (original) The method of claim 40, wherein said three extruding steps are done simultaneously.

47. (original) The method of claim 40, wherein said three crosslinking steps and said foaming step are done substantially concurrently.

48. (original) The method of claim 40, wherein the insulation shield is maintained within the processing temperature range of the foaming agent in said heating step for at least about 1 minute.